

Alternative solutions for compliance with the Building Code

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An alternative solution is all or part of a building design that demonstrates compliance with the Building Code, but differs completely or partially from the Acceptable Solutions or Verification Methods.

Many building projects, particularly renovations or upgrades to existing buildings, and more complex projects need alternative solutions. Not all building work is provided for in the Acceptable Solutions and Verification Methods.

An alternative solution can include a material, component or construction method that differs completely or partially from those given in the Acceptable Solutions or Verification Methods. Whatever the reason, a design-led, non-generic approach to building is often desired or required.

Another way of looking at alternative solutions, is that they demonstrate compliance directly with the Building Code performance. They will usually require specific design and input from suitably qualified people, such as architects or engineers.

Some points about alternative solutions:

- They can be a minor variation from an Acceptable Solution or Verification Method, or a radically different design and construction approach.
- A building owner may want something that looks different or performs better, is more cost effective, or overcomes a specific site problem.
- Alternative solutions have been accepted for entire projects or parts of a building and have included composting toilets, handrails, barriers, fire escape plans, water supplies, effluent disposal, ecohouses and rammed-earth houses.

The Building Code is a performance-based code and allows for innovation and uniqueness. It enables designers to propose innovative solutions using an alternative solution that provide the best outcome for the project.

Designers and building consent authorities (BCAs, usually councils) have important roles to play in the use of alternative solutions. Discussion early in the design process will clarify expectations. The designer needs to know what information and evidence the BCA will expect, and the BCA needs a clear understanding of what the building consent applicant is seeking to achieve.

You can choose your design solution, as long as the BCA is satisfied "on reasonable grounds" that your proposed work will meet the requirements of the Building Code.

Demonstrate an alternative solution complies

As the building consent applicant (or the owner's agent, such as an architect, engineer or builder), you must provide the BCA with evidence to show how your proposed work will meet the performance requirements of the Building Code. Only then will a building consent be issued.

1. Scope the project

Determine which parts of the project are not covered by an Acceptable Solution or Verification Method. These parts require an alternative solution.

2. Identify the Building Code clauses

Include the specific performance requirements for each Building Code clause.

3. Provide evidence

Your documentation must contain sufficient evidence to show the identified performance criteria of all relevant clauses will be met. The amount of evidence may be significant, depending on the complexity of the project.

You can use quantitative or qualitative measures to show compliance. These may include:

- Calculation or test method. Calculations, test results, models, simulations not contained in the Acceptable Solutions or Verification Methods.
- Comparison with Acceptable Solutions or Verification Methods. Acceptable Solutions or Verification Methods provide one means to show how the proposed work will comply. For example, if you change some of the steps to show different materials or detailing, you need to show how the changes

are compensated for or otherwise justified. In many cases, Acceptable Solutions and Verification Methods provide good guidance for assessing an alternative solution.

- Comparison with a product previously accepted by a BCA. For example, some building methods not covered by Acceptable Solutions and Verification Methods may have been previously accepted by a BCA on a comparable building.
- Comparison with a determination issued by MBIE. Is there a determination on a similar proposal? Although determinations are case-specific and therefore have a very limited application, they do provide sound guidance on interpretation of the Building Act and Building Code at a particular point in time.
- Trade literature. Is it a proprietary product? The manufacturer's literature may contain technical data that supports the proposal.
- Appraisal. Is there a current appraisal certificate that describes how compliance with the Building Code is achieved?
- In-service history. Is there proof that arises from in-service history? For example, has the proposed material been used in a similar application on a similar site? Overseas evidence can be used, but be mindful of New Zealand conditions, such as seismic activity, ultra violet light, and exposure to salt-laden winds and wind-driven rain.
- Assessment of actual conditions on site. Is there proof that arises from local environmental conditions? For example, a very sheltered site that is supported by meteorological or horticultural evidence.
- Expert evidence. Is there collaborative expert support? This could be peer review of the proposed solution or opinions obtained from credible organisations.

4. Present your evidence

Provide a strongly argued case to the BCA by including as many of the above tools as possible. Be sure to state exactly what Building Code clauses and performances are being addressed. The clearer the supporting documentation, the easier the evaluation of it will be.

5. A building consent application is accepted when compliance is clearly established

All of the evidence, as described above, is assessed. Note that outside help may be sought by the BCA in assessing all, or specific aspects, of a proposed alternative solution.

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